

**Notice of Allowability**

Application No.

10/669,883

Examiner

BJ Forman

Applicant(s)

MANALIS ET AL.

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to papers of 28 March 2007 and Interview of 4 June 2007.
2. ☒ The allowed claim(s) is/are 1,3,5-7,9-17,19-21,28,43,44,46,162,164 and 165.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
BJ FORMAN, PH.D.  
PRIMARY EXAMINER

## **NOTICE OF ALLOWABILITY**

### ***Status of the Claims***

This action is in response to papers filed 23 March 2007 in which claim 1 was amended and claim 163 was canceled. This action is further in response to amendments discussed and agreed upon during an interview between the examiner and Ms. Blasburg as detailed below.

The previous rejections in the Office Action dated 28 September 2006 are withdrawn in view of the amendments. The amendments place the claims in condition for allowance.

Claims 1, 3, 5-7, 9-17, 19-21, 28, 43-44, 46, 162, 164-165 are in condition for allowance.

## **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Stacy Blasburg on 4 June 2007.

A. Cancel Claims 2 and 4.

B. Replace Claim 1 with the following:

Claim 1. An apparatus comprising:

at least one suspended beam wherein the beam encloses one or more sealed microfluidic channels, wherein each microfluidic channel has at least one inner surface that is treated with a capture ligand to bind to or react with at least one analyte; wherein the capture ligand is bound to the interior surface of the microfluidic channel; and wherein the beam is a resonating beam and the device measures changes in resonance frequency of the beam.

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C. Replace Claim 5 with the following:

Claim 5. An apparatus comprising:

at least one suspended beam wherein the beam encloses one or more sealed microfluidic channels, wherein each microfluidic channel has at least one inner surface that is treated with a capture ligand to bind to or react with at least one analyte; wherein the one or more microfluidic channels further comprises a gel and the capture ligand is bound to the gel; and wherein the beam is a resonating beam and the device measures changes in resonance frequency of the beam.

D. Replace Claim 9 with the following:

Claim 9. The apparatus of Claim 1 or 5, wherein the resonance of each beam is driven by a pair of drive electrodes.

E. Replace Claim 19 with the following:

Claim 19. The apparatus of Claim 1 or 5, wherein the capture ligand is a nucleic acid.

F. Replace the title with the following:

**SUSPENDED MICROCHANNEL DETECTORS**

### **REASONS FOR ALLOWANCE**

The following is an examiner's statement of reasons for allowance: The claims are drawn to a suspended beam having, the beam enclosing a channel, the channel having a capture ligand bound gel within the channel or to an inner surface of the channel. The closest prior art of Sparks teaches mechanical or chemical lysis within a suspended fluidic channel. However, the prior art does not teach or reasonably suggest a capture ligand bound to an enclosed channel of a suspended beam as claimed.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

Claims 1, 3, 5-7, 9-17, 19-21, 28, 43-44, 46, 162, 164-165 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

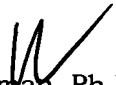
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

  
BJ Forman, Ph.D.  
Primary Examiner  
Art Unit: 1634  
June 6, 2007